

PCT/JP2005/001284
Yasufumi SHIBATA et al.
Attorney Docket No. 03284.0061

**ANNEXES TO THE
PRELIMINARY EXAMINATION REPORT
(ARTICLE 34 AMENDMENTS)**

**Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450**

Sir:


REQUEST FOR SUBSTITUTION OF REPLACEMENT SHEETS

Please substitute the attached replacement pages 36-39 of the claims of the Article 34 Amendments for pages 36-39 of the claims in the enclosed as-filed PCT application. It is respectfully requested that the claims in the substitute pages be examined during examination of the patent application. Claims 2, 4-11, 13, and 15-23 are currently pending.

Respectfully submitted,

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Dated: July 28, 2006

By: 
James W. Edmondson
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IP: 2006/07/28 JUL 2006

CLAIMES:

1. (canceled)
2. A clathrate compound represented by the following composition formula (2):
Composition formula (2) $\text{Ba}_8\text{Au}_b\text{Ga}_c\text{Ge}_{46-b-c}$
($5 \leq b < 16/3$, $c = 16-3b$).
3. (canceled)
4. A clathrate compound represented by the following composition formula (4):
Composition formula (4) $\text{Ba}_8\text{Au}_f\text{Ga}_{6-f}\text{Ge}_{40}$ ($0 < f < 6$).
5. A clathrate compound represented by the following composition formula (5):
Composition formula (5) $\text{Ba}_8\text{Pt}_g\text{Ge}_{46-g}$ ($4 < g < 6$).
6. A clathrate compound represented by the following composition formula (6):
Composition formula (6) $\text{Ba}_8\text{Pd}_h\text{Ge}_{46-h}$ ($5 < h < 6$).
7. A clathrate compound represented by the following composition formula (7):

Composition formula (7) $\text{Ba}_8\text{Pd}_i\text{Ga}_j\text{Ge}_{46-i-j}$

$$(0 \leq i \leq 4, j = 16-4i).$$

8. A clathrate compound represented by the following composition formula (8):

Composition formula (8) $\text{Ba}_8\text{A}_k\text{Ga}_l\text{Si}_{46-k-l}$

$$(0 \leq k \leq 4, l = 16-4k)$$

wherein A in Composition formula (8) represents Pd or Pt.

9. A clathrate compound represented by the following composition formula (9):

Composition formula (9) $\text{Ba}_8\text{E}_m\text{Ga}_{6-m}\text{Ge}_{40}$

$$(5 < m < 6)$$

wherein E in Composition formula (9) represents Cu or Ag.

10. A clathrate compound represented by the following composition formula (10):

Composition formula (10) $\text{Ba}_8\text{G}_n\text{Ga}_{6-n}\text{Ge}_{40}$ ($0 < n \leq 5$)

wherein G in Composition formula (10) represents Cu or Ag.

11. A clathrate compound represented by the following composition formula (11):

Composition formula (11) $\text{Ba}_8\text{J}_o\text{Ga}_p\text{Ge}_{46-o-p}$

$$(0 < o < 16/3, p = 16-3o)$$

wherein J in Composition formula (11) represents Cu or Ag.

12. (canceled)

13. A thermoelectric conversion element comprising a sintered body of the clathrate compound of claim 2.

14. (canceled)

15. A thermoelectric conversion element comprising a sintered body of the clathrate compound of claim 4.

16. A thermoelectric conversion element comprising a sintered body of the clathrate compound of claim 5.

17. A thermoelectric conversion element comprising a sintered body of the clathrate compound of claim 6.

18. A thermoelectric conversion element comprising a sintered body of the clathrate compound of claim 7.

19. A thermoelectric conversion element comprising a sintered body of the clathrate compound of claim 8.

20. A thermoelectric conversion element comprising a sintered body of the clathrate compound of claim 9.

21. A thermoelectric conversion element comprising a sintered body of the clathrate compound of claim 10.

22. A thermoelectric conversion element comprising a sintered body of the clathrate compound of claim 11.

23. A method for producing a thermoelectric conversion element comprising a sintered body of a clathrate compound whose constituent atoms include Ba and Ge, the method comprising:

melting elements which are to constitute the clathrate compound so as to synthesize the clathrate compound;

heat-treating the synthesized clathrate compound at 650 to 900 °C for 50 to 250 hours;

forming particles from the heat-treated clathrate compound; and

sintering the particles.